

REMARKS

Claim 1 - 8, 12 - 21, 24 - 28, 30 - 33, and 36 - 38 are pending. Claims 1, 2, 12, 13, 15, 21, and 24 - 26 have been amended. Claim 39 has been cancelled. No new matter has been introduced. Reexamination and reconsideration of the application are respectfully requested.

In the May 6, 2004 Office Action, the Examiner rejected claims 25 - 26 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,283,819 to Glick (the Glick reference). The Examiner rejected claims 1 - 8, 11 - 12, 18 - 20, 24, and 30 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,792,971 to Timis (the Timis reference) in view of the Glick reference. The Examiner rejected claims 9 - 10, 27 - 29, 32, and 36 under 35 U.S.C. 103(a) as being unpatentable over the Timis reference and in view of U.S. Patent 5,774,567 to Heyl (the Heyl reference). The Examiner rejected claim 15 under 35 U.S.C. § 103(a) as being unpatentable over the Silfvast reference in view of the Heyl reference.

The Examiner rejected claims 16 - 17 under 35 U.S.C. § 103(a) as being unpatentable over the Timis reference as modified by the Glick reference and further in view of U.S. Patent No. 6,314,326 to Fuchu (the Fuchu reference). The Examiner rejected claims 13 - 14, and 21 - 23, 31, and 33 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,524,060 to Silfvast in view of the Timis reference and further in view of the Glick reference. The Examiner rejected claim 37 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,787,259 to Haroun ("the Haround reference") in view of the Glick reference. The Examiner rejected claim 38 under 35 U.S.C. § 103(a) as being unpatentable over the Haroun reference in view of

the Heyl reference. The Examiner rejected claim 39 under 35 U.S.C. § 103(a) as being unpatentable over the Haroun reference in view of the Silfvast reference. These rejections are respectfully traversed with respect to the claims as currently amended and rendered moot with regards to cancelled claim 39.

Embodiments of the present invention relate to a system interconnecting a computer and an audio device, which may operate independently of each other. The computer and the audio device may cooperate with each other so that computer audio data supplied from the computer are sent to the audio device via a serial bus such as the Universal Serial Bus (USB) and are reproduced in the audio device even if the audio device selects a source other than the computer. The audio device may be an audio component stereo system providing at least one audio source such as a tuner or a recording media, which provides the audio source audio data. The audio device performs mixing between the audio source audio data and the computer audio data based on control data. Speakers produce sounds based on the mixing results.

Independent claim 25 recites:

A control method for an audio device, comprising:
creating a graphic user interface (GUI) for controlling the audio device to allow selection of an audio source with respect to an audio device and **to allow mixing of audio data of the selected audio source together with other audio data created by a computer;**
outputting control data to the audio device based on operation of the graphical user interface;
receiving information regarding operation of the graphical user interface as the control data, and providing the control data to the graphical user interface; and
outputting the audio data to the audio device, **wherein the GUI allows the controlling of the audio device by use of a plurality of operations panels displayed on a screen of a display.**

The Examiner states that the Glick reference discloses creating a graphical user

interface for controlling the audio device to allow selection of an audio device and to allowing mixing of audio data of the selected audio source together with other audio data created by the computer. (*Office Action, page 2*). The applicants respectfully disagree with the Examiner.

The section of the Glick reference identified by the Examiner as disclosing the control method of claim 25 is directed to a multimedia graphical user interface system. The Glick reference multimedia graphical user interface (GUI) software supports audio inputs and outputs as well as digitally sampled sound. Audio input can be used for creating sampled sound for voice annotations as well as basic music multimedia products. The sampled audio can also be played back via disk, such as a compact disk. (*Glick, col. 35, lines 22 - 50.*) The Examiner also states that a mixer is disclosed that allows mixing of audio data with audio data created by a computer. (*Glick, col. 12, lines 26 - 41*).

However, this is not the same as a control method for an audio device, including creating a graphic user interface for controlling the audio device to allow selection of an audio source with respect to an audio device and **to allow mixing of audio data of the selected audio source together with other audio data created by a computer**. The Glick reference does not disclose that the graphical user interface controls the mixing of the audio source together with audio data created by the computer. What the examiner identifies in the Glick reference is just that a mixer exists, a graphical user interface exists, and selected audio sources exist. The Examiner states that the graphical user interface of the Glick reference discloses support of audio input and output operations including selection and mixing at column 34, lines 40 - 60. The applicants have read

the aforementioned section and do not see that this section of the Glick reference discloses mixing. Accordingly, applicants respectfully submit that claim 25, as amended, distinguishes over the Glick reference.

Applicants respectfully submit that claim 25 further distinguishes over the Glick reference. The Glick reference does not disclose a control method for an audio device, wherein **the GUI allows the controlling of the audio device by use of a plurality of operations panels displayed on a screen of a display**. There is no disclosure in the Glick reference identifying that the graphical user interface utilizes a plurality of operation panels that are displayed on a screen of a display. This limitation is supported by Figs. 3A - 3C of the disclosure and the accompanying description. Accordingly, applicants respectfully submit that claim 25, as amended, further distinguishes over the Glick reference.

Independent claim 26 recites similar limitations to independent claim 25. Accordingly, applicants respectfully submit that independent claim 26 distinguishes over the Glick reference for similar reasons as discussed above in regard to independent claim 25.

Claim 1, as amended, recites:

An audio system comprising:
an audio device;
a computer for creating computer audio data and control data for operating the audio device; and
data transmission means for linking the audio device and the computer together to transmit data therebetween, wherein,
said computer has an output for outputting the computer audio data and the control data to the audio device via the data transmission means,
and said audio device includes
a first system portion for processing audio source audio data that is provided by an audio source other than the computer,
a second system portion for processing the computer audio

**data created by the computer, and
a mixing circuit for performing mixing of the audio source
audio data and the computer audio data, which are respectively
processed by the first and second sound system portions,
wherein said audio device, including the first system portion
and the second system portion, and said computer are located in
separate physical housings and the audio device can operate
independently if the computer is not operational.**

The Examiner states that the Timis reference does not teach clearly a second system portion for processing data from an audio source other than the computer, audio data created by the computer, and a mixing circuit for performing mixing of the audio source data and the computer audio data. (*Office Action, pages 4 and 5*). The applicants agree with the Examiner and respectfully submit that claim 1, as amended, distinguishes over the Timis reference.

The Examiner also states that the Glick reference teaches a second system portion for processing data from an audio source other than the computer, audio data created by the computer, i.e., the sound synthesizer, and a mixing circuit for performing mixing of the audio source data and the computer audio data. (*Office Action, page 5*). The Examiner further states that it would have been obvious to one of skill in the art to utilize the teaching of the Timis reference and the Glick reference together. (*Office Action, page 5*). The applicants respectfully disagree with both of the Examiner's assertions. The Glick reference does not disclose that a second system portion **in an audio device** allows for processing of data from an audio source other than the computer and audio data created by the computer nor does it disclose that a second system portion **in an audio device** includes a mixing circuit. The Glick reference discloses that the processing section and the mixing circuit are located the computer,

i.e., see Fig. 1 where the synthesizer (pointed to by the Examiner) and the mixing circuit 70 are clearly defined as being integral to the multimedia computer. Specifically, the Examiner cites to column 12, lines 26 - 41 as disclosing that a synthesizer generates different sounds by the computer itself. This section of the Glick reference mentions a Yamaha MY3812 chip which is a sound chip (i.e. integrated circuit) that is widely used in IBM PC-based sound cards. In other words, the synthesizer is not in the audio device, it is in the PC. The Examiner actually admits this by stating "it is noted that the synthesizer resides and operates in the computer." (*Office Action, page 27*).

Therefore, it is impossible for the Glick reference to disclose an audio system including a computer and an audio device, wherein the audio device includes **a second system portion for processing the computer audio data created by the computer, and a mixing circuit for performing mixing of the audio source audio data and the computer audio data, which are respectively processed by the first and second sound system portions**. Accordingly, applicants respectfully submit that claim 1, as amended, distinguishes over the Glick / Timis reference combination.

The applicants further submit that the Timis reference and the Glick reference, alone or in combination, do not disclose that computer and the audio device **are located in separate physical housings and the audio device can operate independently if the computer is not operational**. The Examiner states that the Timis reference discloses that the separate devices are capable of operating independently in column 5, line 58 - col. 6, line 22. The Timis reference does not disclose that the MIDI device 180 is capable of operating independently if the computer is not operational. Accordingly, applicants respectfully submit that claim 1, as

amended, further distinguishes over the Timis reference.

The Glick reference does not make up for the deficiencies of the Glick reference because the Glick reference discloses that the audio device and the computer are located in the same physical housing. Further, in the Glick reference, the audio device is integral to the computer and therefore cannot operate independently of the computer if the computer is not operational. Accordingly, applicants respectfully submit that the claim 1, as amended, further distinguishes over the Timis / Glick reference combination.

The Heyl reference does not make up for the deficiencies of the Timis and the Glick references. The Heyl reference is directed to an audio codec, which supports sophisticated multimedia functions within personal computers, and is capable of handling complex control and routing of numerous sound inputs. (*Heyl, col. 1, lines 7 - 9; lines 53 - 55*). The Heyl reference discloses that a user of the personal computer can have the ability to provide separate volume adjustments for inputs and outputs.

This is not the same as an audio system including an audio device; a computer for creating computer audio data and control data for operating the audio device; and data transmission means for linking the audio device and the computer together to transmit data therebetween, said audio device includes a first system portion for processing audio source audio data that is provided by an audio source other than the computer, a second system portion for processing the computer audio data created by the computer, and mixing means for performing mixing of the audio source audio data and the computer audio data, which are respectively processed by the first and second sound system portions, wherein said audio device, including the first system portion and the second system portion, and said computer are located in separate physical

housings and **the audio device can operate independently if the computer is not operational.** It is not the same because the Heyl reference is discussing a digital mixing means that is installed inside the computer, and not a mixing means installed in the audio device. It is also not the same because the Heyl reference is only disclosing a computer with multimedia capabilities and not a computer and an audio device. Accordingly, applicants respectfully submit that independent claim 1, as amended, distinguishes over the Heyl reference, alone or in combination with the Timis and the Glick references.

The applicants again respectfully submit that the Timis reference and the Glick reference are not properly combinable. The combination of the Timis reference with the Glick reference would destroy the purpose and intent of the invention disclosed in the Glick reference. This would be a disincentive for combining the references. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The Glick reference discloses that a technical advantage of the Glick reference is that it provides in a single chassis or platform an integrated multimedia and telecommunication applications for entertainment purposes. (*Glick*, col. 2, lines 65 - 68). Specifically, the Glick reference discloses the utilization of a single computer to perform all audio multimedia functions and includes an internal MIDI interface. The Timis reference has a computer as a master and utilizes external devices to supply some of the functionality that the Glick reference already includes as integrated into its multimedia circuitry. It would destroy the intent of the Glick reference to duplicate some of its multimedia circuitry by using external devices or to move the circuitry outside the personal computer which houses the multimedia circuit.

Furthermore, the Glick reference teaches away from the present invention, as recited in claim 1. The Glick reference discloses a computer including an audio multimedia circuit. The present invention is directed to an audio system including a computer and an audio device, where the computer is separate from the audio device. The opposite of having an audio device inside a personal computer, as disclosed by the Glick reference, is having an audio device external to the personal computer, as claimed in the present invention. Teaching away from the art is a per se demonstration of the lack of prima facie obviousness. *In re Dow Chemical Co.*, 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988). Accordingly, applicants believe the combining of the Timis reference and the Glick reference is improper for independent claim 1 and also for independent claims 2, 12, 13, 15, 21 and 24, which are discussed below.

Independent claims 2 and 24, as amended, recite limitations similar to independent claim 1, as amended. Accordingly, applicants submit that independent claims 2 and 24 distinguish over the Timis, Glick, and Heyl references, alone or in combination, for similar reasons as discussed above in regard to independent claim 1, as amended.

Claims 3, 5, and 7 depend, directly or indirectly, from independent claim 1, as amended. Claims 4, 6, and 8 depend, directly or indirectly, from independent claim 2, as amended. Claim 36 depends directly from independent claim 24, as amended. Accordingly, applicants respectfully submit that dependent claims 3 - 8 and 36 distinguish over the Timis reference, the Glick reference, and the Heyl reference, alone or in combination, for the same reasons as discussed above in regard to independent claims 1, 2, and 24, all as amended.

Independent claim 15, as amended, recites:

An audio system, comprising:
an audio device for producing first audio data in connection with at least one audio source,
external serial bus means, and
a personal computer, for creating second audio data and control data, said audio device and said personal computer **being located in separate physical housings and said audio device operating independently of the computer if the computer is not operational and**
wherein the audio device further includes a selection unit for selecting one of the first audio data and the second audio data, a signal processing block for performing signal processing on output of the selection device, an adjustment unit for performing adjustment on the second audio data with respect to sampling parameters, a digital mixing circuit for performing digital mixing between output of the signal processing means and output of the adjustment means, and a digital-to-analog converter for converting result of the digital mixing to analog signals, and a speaker for producing the sound based on the analog signals.

The Silfvast reference does not disclose, teach, or suggest the audio system of claim 15, as amended. Figs. 5 and 6 illustrate a mixer console connected to a computer and a computer and a control interface on the mixer console. The Silfvast reference does not disclose that an audio device can operate independently from the computer if the computer is not operational. Instead, the Silfvast reference is disclosing how the control interface on the mixer console and the computer operate together. Accordingly, applicants respectfully submit that claim 15, as amended, distinguishes over the Silfvast reference.

The Heyl reference does not make up for the deficiencies of the Timis reference. As noted above in regard to independent claim 1, as amended, the Heyl reference does not disclose that the audio device and the personal computer **are located in separate physical housings and that the audio device operates independently of the computer if the computer is not operational.** Accordingly, applicants respectfully

submit that claim 15, as amended, distinguishes over the Silfvast reference, alone or in combination with the Heyl reference.

Claim 32 depends directly on independent claim 15, as amended. Accordingly, applicants respectfully submit that claim 32 distinguishes over the Silfvast and Heyl references, alone or in combination, for the same reasons as discussed above in regard to claim 15.

Independent claim 12, as amended, recites:

An audio system, comprising:
an audio device for producing first audio data in connection with at least one audio source,
an external serial bus, and
a personal computer, for creating second audio data and control data,
wherein the **audio device is in a separate physical device from the personal computer, the audio device operates independently of the computer if the computer is not operational**, and the audio device performs mixing between the first audio data and the second audio data, which is transmitted thereto via the external serial bus, on the basis of the control data transmitted from the personal computer, so that speaker means produces sound based on mixing results.

As discussed above in regard to claim 1, the Timis and Glick references do not disclose that the audio device is in a separate physical device from the personal computer, and the audio device operates independently of the computer if the computer is not operational. Accordingly, claims 12, as amended, distinguishes over the Timis and the Glick references alone or in combination.

The Fuchu reference does not make up for the deficiencies of the Timis and Glick reference. The Examiner utilizes the Fuchu reference to show that an audio system includes an external serial bus means and that the external serial bus means may be a universal serial bus or an IEEE 1394 serial bus. (*August 13 Office Action*,

page 17). Assuming, arguendo, that Fuchu reference discloses all that the Examiner states that it does, the Fuchu reference does not disclose an audio system including a computer and an audio device, wherein the **audio device is in a device physically separate from the computer, and that the audio device operates independently of the computer if the computer is not operational**. Accordingly, applicants respectfully submit that independent claim 12, as amended, distinguishes over the Fuchu reference, alone or in combination with the Timis and Glick references.

Claims 16 - 20 and 30 depend, directly or indirectly, from independent claim 12, as amended. Accordingly, applicants respectfully submit that dependent claims 16 - 20 and 30 distinguish over the Timis, Glick, and Fuchu references, alone or in combination, for the same reasons as discussed above in regard to independent claim 12, as amended.

Independent claim 13 recites:

An audio system, comprising:
an audio device for producing first audio data in connection with at least one audio source,
an external serial bus, and
a personal computer, for creating second audio data and control data,
wherein the audio device is in a device physically separate from the computer, the audio device operates independently if the computer is not operational, and further includes a selecting unit for selecting one of the first audio data and the second audio data, which is transmitted thereto via the external serial bus, a signal processing block for performing signal processing on output of the selection unit, a first digital-to-analog converter for converting output of the signal processing device to first analog signals, a second digital-to-analog converter for converting the second audio data from the personal computer to second analog signals, and an analog mixing circuit for performing analog mixing between the first analog signals and the second analog signals, whereby a speaker produces sound based on the result of the analog mixing.

As discussed above, the Timis, Glick, Silfvast, and Heyl references do not disclose a system including an audio device and a computer, **wherein the audio device is in a device physically separate from the computer and the audio device operates independently of the computer if the computer is not operational.**

Accordingly, the applicants respectfully submit that claim 13, as amended, distinguishes over the Timis, Glick, Silfvast, and Heyl references, alone or in combination.

Independent claim 21 recites similar limitations to independent claim 13, as amended. Accordingly, applicants respectfully submit that independent claim 21, as amended, distinguishes over the Silfvast, Timis, Glick, and Heyl references, alone or in combination, for similar reasons as discussed above in regard to the independent claim 13, as amended.

Claims 14 and 31, and claim 33 depend, directly or indirectly from independent claims 13 and 21. Accordingly, applicants respectfully submit that dependent claims 14, 31, and 33 distinguish over the Silfvast, Timis, Glick, and Heyl references, alone or in combination, for the same reasons as discussed above in regard to independent claim 13.

Independent claim 37 distinguishes over the cited references. Representative claim 37 recites:

An audio system comprising:
an audio device;
a computer for creating computer audio data and control data for operating the audio device; and
a data transmission bus for linking the audio device and the computer together to transmit data therebetween,
wherein said computer has an output for outputting the computer audio data and the control data to the audio device via the data transmission bus,
and wherein **said audio device includes**

a first system portion for processing audio source audio data that is provided by a tuner unit integrated in the audio device,
a second system portion for processing the computer audio data created by the computer,
a mixing circuit for performing mixing of the audio source audio data from the tuner unit and the computer audio data, which are respectively processed by the first and second sound system portions,
and
wherein said audio device, including the first system portion and the second system portion, and said computer are located in separate devices, the separate devices being capable of operating independently.

The Haroun reference does not disclose, teach, or suggest the audio system of claim 37. The Examiner states that the Haroun reference does not teach a mixing circuit for performing mixing of audio source data from the tuner unit and the computer audio data. The applicants agree with the Examiner and respectfully submit that claim 37 distinguishes over the Haroun reference.

Independent claim The Glick reference does not make up for the deficiencies of the Haroun reference. As discussed above, the Glick reference does teach a mixing circuit, however, the Glick reference teaches a mixing circuit being located in the computer and does not disclose that the mixing circuit is located in the audio device, as is recited in independent claim 37. In other words, the Glick reference disclosure is teaching away from having the mixing circuit located in the audio device because it discloses that the computer includes all of the multimedia circuitry including the mixing circuit. Accordingly, applicant respectfully submits that claim 37 distinguishes over the Glick and Haroun reference combination.

Independent claim 38 distinguishes over the cited references. Independent claim 38 recites:

An audio system, comprising:
 an audio device for producing first audio data in connection with at least one audio source,
 an external serial bus; and
 a personal computer, for creating second audio data and control data,
 wherein the audio device is located in a device separate from the computer, and includes a tuner unit as a first audio source for producing the first audio data, a selecting unit for selecting one of the first audio data and the second audio data, a signal processing block for performing signal processing on output of the selecting unit, an adjusting unit for performing adjustment on the second audio data with respect to sampling parameters, a digital mixing circuit for performing digital mixing between output of the signal processing block and output of the adjustment device, and a digital-to-analog converter for converting a result of the digital mixing to analog signals, and speakers for producing the sound based on the analog signals.

The Haroun reference does not disclose, teach, or suggest the system of claim 38. The Examiner states that the Haroun reference does not teach a selecting unit for selecting one of first audio data and second audio data, a signal processing block, an adjusting unit for performing signal processing on output of the selecting unit, an adjusting unit for performing adjustment on the second audio data with respect to sampling parameters, a digital mixing circuit for performing digital mixing between outputs of the signal processing block and output of the adjustment device. The applicants agree and respectfully submit that claim 38 distinguishes over the Haroun reference.

The Heyl reference does not make up for the deficiencies of the Haroun reference. The Heyl reference disclosure that the Examiner identifies discloses an apparatus that is generally found within a computer system. (*Heyl*, col. 3, lines 39 - 42).


This is the opposite of an **audio device including a digital mixing circuit** for performing digital mixing between output of the signal processing block and output of the adjustment device because the computer includes the digital mixing circuit. Accordingly, applicants respectfully submit that claim 38 distinguishes over the Heyl / Haroun reference combination.

Applicants believe that the claims are in condition for allowance, and a favorable action is respectfully requested. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call either of the undersigned attorneys at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the Examiner believe that such a telephone conference would advance prosecution of the application.

Respectfully submitted,

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